

Summary of the Invention

The present invention satisfies these needs. In one embodiment, the present invention provides a security safe having a housing defining a security enclosure, the housing including an opening into an interior of said enclosure for placing items into, and removing items from, said enclosure. A door mechanism is mounted to the housing for movement between opened and closed positions in relation to said opening, wherein in the closed position the door mechanism precludes access to said interior through said opening. In one version, the housing further includes an aperture for inserting items into said enclosure without moving said door mechanism into the opened position. In another version, the aperture is defined in a door of the safe. The safe includes means for locking the doors, and anchoring means for anchoring the safe to a structure.

Brief Description of the Drawings

These and other features, aspects and advantages of the present invention will become better understood with regard to the following description, appended claims and accompanying drawings where:

FIG. 1 shows an example perspective view of an embodiment of a safe according to the present invention with the safe doors in the closed position;

FIG. 2 shows an example perspective view of the safe of FIG. 1 with the safe doors in the open position;

FIG. 3 shows an example perspective view of the safe of FIG. 1 with the safe doors removed, showing an example shelving for storage compartments within the safe;

FIG. 4 shows a partial top view of the safe of FIG. 1; and

FIG. 5 shows a front view of the safe of FIG. 1.

Detailed Description of the Invention

FIGS. 1-2 show perspectives view of an example embodiment of a safe according to the present invention for securely storing valuables therein. The safe

1 comprises a housing 12 defining an enclosure 14, with an access-opening 16 providing
2 access to the interior of the housing 12 for storing objects such as valuables. The
3 housing 12 includes side walls 18, top wall 20, bottom wall 22 and rear wall 24, and
4 said access-opening 16 and a door mechanism 28 including one or more doors form a
5 front wall 26 of the safe 10. Preferably, the door mechanism 28 includes two doors 28L
6 and 28R as shown, wherein the doors 28L, 28R are attached to the housing 12 around
7 the opening 16 using hinges 30 as shown in FIGS. 2 and 4. The hinges 30 are
8 selected, and the doors 28L, 28R are attached to the housing 12 via the hinges 30,
9 such that when the doors 28L, 28R are closed, the hinges 30 are not visible (FIG. 1).
10 This provides a flush external surface for the safe 10 where the doors 28L, 28R are
11 attached to the housing 12, and prevents removal of the doors 12 by manipulating the
12 hinges 30 when the doors 28L, 28R are closed.

13
14 In one example, the safe 10 has outside dimensions of about e.g. 10" high x 17 "
15 wide x 12.5" deep. The access-opening 16 is defined on the front wall 26 of the safe
16 10, wherein the access-opening 16 is about e.g. 8" high x 15" wide. The housing 12
17 and the doors 28L, 28R are made from e.g. 18 Gauge steel that has a baked power
18 coat finish. Other dimensions and rigid materials for the safe 10 are possible and
19 contemplated by the present invention. Access to the safe 10 is controlled with the two
20 outward swinging doors 28L, 28R that pivot on the concealed hinges 30.

21
22 The safe 10 includes a locking mechanism for locking the doors 28R, 28L
23 closed. In one example, the right hand (second) door 28R traps the left hand (first) door
24 28L when closed, if the left hand door 28L is closed first. For example, the left hand
25 door 28L can include a lip 32 extending from an edge of the door 28L, whereby the right
26 hand door 28R traps the left door 28L as shown in FIG. 4. In this embodiment, the right
27 hand door 28R is controlled in its opening and closing using a padlock 34 inserted
28 through a member such as steel loop 36 that is welded to the inside of the housing 12
29 and projects through a breach 38 in the right hand door 28R, wherein the padlock can
30 be placed through the hoop 36, preventing the doors 28L, 28R from being opened

1 without removing the padlock. In this example, the hoop 36 is attached to a divider 44
2 secured inside the housing 12. Other locking mechanisms for the safe 10 are possible
3 (e.g., combination lock) and contemplated by the present invention.
4

5 The right hand door 28R includes a recessed area 40 on the face of the right
6 hand door 28R, wherein the breach 38 is defined in the recess 40 to provide an area for
7 the padlock and a flush face to the safe. The hoop 36 projects through the breach 38
8 into the recessed area 40 (FIG. 4). As shown in FIG. 3, the doors 28L, 28R can be
9 disassembled from the housing 12, when the doors 28L, 28R are open, by means of
10 hand tools. This allows repairing or changing the doors 28L, 28R. Each door 28L, 28R
11 is about e.g. 8" high x 7.5" wide. The recessed area 40 on the right hand door 28R can
12 be rectangular, about e.g. 4" high x 3" wide x 0.5" deep. The breach 38 in the recessed
13 area 40 can be about e.g. 1" from top of the recess 40 and about 1" wide. The housing
14 12 further includes lips 43 protruding from the opening 15, and recessed into the
15 housing by e.g. 0.5 inches", as door stops when the doors 28L, 28R are closed.
16

17 In another aspect of the present invention, the safe 10 further includes at least
18 one aperture 42 for inserting items into the safe 10 without using said access-opening
19 16. As such, the aperture 42 can be used to insert items into the safe 10 without
20 moving the doors 28 into the opened position. In one example shown in FIG. 5, the
21 aperture 42 comprises a narrow horizontal slot defined in the right hand door 28R,
22 wherein the slot is about e.g. 1/4" high and 5" wide near the upper portion of the face of
23 a door 28L or 28R. Other shapes, sizes and locations for the aperture 42 are possible
24 and contemplated by the present invention. In another example shown in FIG. 3, the
25 aperture 42 is defined in the housing 12, such as e.g. a side wall 18 of the housing 12.
26 Preferably, the slot 42 is shaped and sized to allow inserting items into the safe 10,
27 while preventing access to the interior 14 of the safe 10 for removing items therefrom
28 when the safe doors 28L, 28R are closed. For example, the slot 42 can be used to
29 insert items such as money, credit cards, mail, etc. into the safe 10 without opening the
30 safe doors 28.

1 The safe 10 further includes a anchoring mechanism for securely fastening the
2 safe to a structure, such as floor or walls boards, such that the safe 10 cannot be
3 moved when the safe doors are closed. As shown in FIG. 3, in one example, the
4 anchoring mechanism includes a plurality of orifices or holes 46 in the housing 12 to
5 allow attachment of the safe 10 to a structure with fasteners 48, such that the fasteners
6 cannot be removed when the doors 28L, 28R are in the closed position. For example,
7 the safe 10 can be installed and anchored in the a student's dorm room using e.g. 1/4"
8 anchor holes 46 in the bottom wall 22 of the housing 12 using fasteners 48 such as
9 screws, nails, etc.. The screws/nails 48 are inaccessible when the safe doors 28L, 28R
10 are closed (FIG. 1). Other means of anchoring the safe 10 are possible and
11 contemplated by the present invention.

12
13 As shown by example in FIG. 3, dividers/shelves 44, 50 are used to divide the
14 interior space 14 in the safe into different storage area or compartments 52 (e.g, 52L,
15 52R, 52B). In the example of FIG. 3, dividers 44, 50 secured to the housing 12 (e.g.,
16 screwed) are used to define three storage areas 52L, 52R, 52B, wherein a horizontal
17 shelf 44 divides the interior 14 in half into lower/bottom storage area 52B, and an upper
18 area further divided by a vertical divider 50 into two unequal areas, a left area 52L and
19 a right area 52R (e.g., area for the receipt of items inserted though said horizontal slot
20 42). The left hand upper interior portion 52L of the safe 10 can hold cameras, CD
21 players, cell phones, and similar size personal items. The lower portion 52B of the safe
22 10 is designed to accommodate at least one portable or notebook personal computers.

23
24 As shown in FIG. 5, the safe 10 further includes one or more breaches/holes 54
25 providing access into the safe 10 for passing at least a power cable 56 therethrough for
26 powering at least one electrical unit (e.g., notebook personal computer) in the safe 10
27 from an external power source when the doors 28L, 28R are closed. In the example
28 shown, the breaches 54 are defined in the housing 12 (e.g., defined in the front wall 26
29 of the housing 12), and have a circular shape of about 1" in diameter. Other shapes,
30 sizes and locations for the breaches 54 are possible and contemplated by the present

1 invention.

2
3 A safe 10 according to the present invention can be used in private, semi-public,
4 and public locations. For example, the safe 10 can be used in homes, hotels, vehicles,
5 and education institutions such as dormitory rooms. With the proliferation of the
6 notebook personal computer, theft of such items has become more important to
7 students. Currently students have no way of storing their notebook computers and
8 valuables and small expensive items in their dorm room. As such, the students have no
9 choice but and they carry all of their valuables around with them at all times. An
10 example safe 10 according the present invention takes little space in crowded dorm
11 rooms, and can be locked by a lock such as a padlock or combination lock. Preferably,
12 the student provides a lock which only the student can unlock. The lock can also be
13 integrated into the safe 10. However, integrated mechanical combination locks or
14 digital keypads can create a control/administration overhead for university
15 management. The changing of codes for each student every semester can be difficult
16 and time consuming. A lock provided by a student prevents management access to the
17 student's belongings stored in the safe.

18
19 Students can store their belongings such as notebook computers, mail, cell
20 phones, CD players, and other high value small items in the safe 10 in their dorm
21 rooms, whereby the students total control over the contents of the safe 10 using the
22 student's own lock. The student can conveniently deposit money and letters into the
23 safe 10 using the drop aperture 42 without opening the safe doors 28L, 28R exposing
24 contents of the safe 10. The safe 10 is designed for maximum space utilization and
25 provides secure and private storage without using too much of the student's limited
26 dorm room space. The inside shelf surfaces of the safe 10 can be covered with a
27 rubber type material.

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29 Although the present invention has been described in considerable detail with
30 regard to the preferred versions thereof, other versions are possible. Therefore, the

